

FOLIO

22 FEBRUARY 1991

Dissatisfaction mounts

STUDENTS EAGER TO MARCH TO LEGISLATURE



Prelude to a mass rally: Students, led by Suresh Mustapha, have plenty to say about the unfortunate state of affairs their University finds itself in. They plan to make a bigger statement 1 March.

A crowd of about 200 people, the majority of them students, gathered in the Quad 14 February to show their support for the University of Alberta and higher education in the province.

The rally began shortly after the announcement by University administration of a series of recommendations that included the closure of three departments and the downsizing of others.

Students' Union President Suresh Mustapha's reading of each proposed cut was greeted by a round of boos.

"If the cuts don't hit you this year, they'll hit you next year," he warned. "On March 1 we want to take the largest march on a provin-

cial legislature in Canadian history. We have to show government clearly that we love our University."

Graduate Students' Association President Stephen Downes said, "Government won't care until we show we care and everyone in the province cares."

Anita Moore, President of the Non-Academic Staff Association, said the majority of the cutbacks are going to be in the ranks of support staff, "the people that look after you [students]."

The losers are more than the people who lose their jobs; everyone who has come to depend on the University's infrastructure will suffer, she said, adding, "Education in Canada is in crisis. We're a prime example."

Gerwin Marahrens (Germanic Languages) said one of the reasons the Students' Union and Graduate Students' Association sponsored the rally was to protest inhumane increases in tuition fees. For 20 years, the University has received inadequate grants, he said. "The non-confrontational approach seems not to have worked," he said, referring to discussions between administrators and Advanced Education officials. "Therefore, we must take the direct route to the public," he said of the planned march to the legislature 1 March at 1 pm.

Professor Marahrens told the small but enthusiastic turnout, "We must tell the public that education is not a business. A business can go bankrupt and be eliminated. Education is an ongoing thing."

The speakers urged people to convince their friends and colleagues to participate in the march. Sean Kennedy, Vice-President (External) of the Students' Union and the organizer of the event, said he expected 5,000 students to be at the legislature.

Following the rally, the crowd marched to University Hall and greeted President Davenport with the question, "Will you lead the march?" He declined to do so, saying, "I don't think that's the way, in the long run, you want your President to communicate with government." Cancelling classes and taking part in a march would result in the public thinking the University doesn't have such a big problem because it can close its doors and ignore its mission, he said.

Mustapha said, "We'll return here and invite you and members of the Board of Governors to march. If you don't want to walk, we'll even drive you over."

Rolling with the punches puts U of A off balance

Saying the University of Alberta must chose the path of excellence and make the difficult decisions which such a choice implies, President Paul Davenport announced proposals aimed at restructuring the institution.

Twelve units are slated to be either closed or restructured.

If implemented, the proposals could lower the University's operating costs by up to \$4.5 million per year.

The Departments threatened with closure at the end of this academic term are Agricultural Engineering, Applied Sciences in Medicine and Recreation and Leisure Studies. It's also proposed that the Mining Engineering program cease functioning.

In all cases involving the closure of degree programs, provision is made for students currently registered to complete the degree within a reasonable time.

Last year, the University was forced to impose a two percent across-the-board budget cut, an action that sliced \$5 million from the operating expenditures. "Those cuts damaged the quality of teaching and research at our institution, and led many in our community to ask the central administration to adopt a more selective approach to University budgeting. The Vice-Presidents and I have tried to respond to that request in the set of proposals we are releasing today [14 February]," the President told a news conference.

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- Linguistics professor, with support of AGT, researching speech recognition
- New variety of wheat coming on the market
- Fort MacKay Band rebounds from adversity

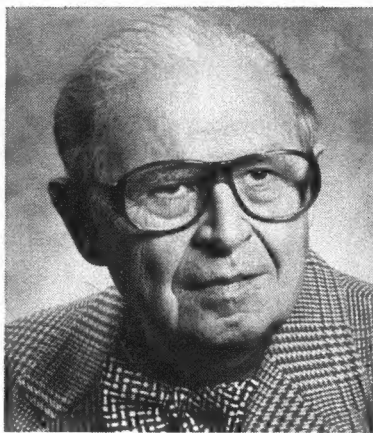
Max Wyman, 1916 - 1991

Max Wyman, the first native Albertan and the first graduate of the University of Alberta to become President of the U of A, died 9 February.

Appointed the University's seventh President in 1969, Dr Wyman had already established his reputation as a mathematician, a teacher and an administrator.

A theoretical mathematician interested in the applications of mathematics to the theory of relativity, Dr Wyman was elected Fellow of the Royal Society of Canada in 1951, the youngest person ever to receive the honour.

As Vice-President (Academic) during the turbulent '60s when students were demanding more representation in university affairs, Dr Wyman urged that dissent should be listened to because "this lonely voice may become the majority voice of the future." He was active in the debate that succeeded in obtaining greater student representation on General Faculties Council, and called the discussion "the real highlight of my office for me." Known for his quiet humanity and his willingness to listen, Dr Wyman said at his last Convocation in 1974 that "the conflict between universities and governments ... will never be



Max Wyman was President of the University of Alberta from 1969 to 1974.

resolved until each side makes an honest effort to listen and to understand what the other side is saying."

DR WYMAN WAS KNOWN FOR HIS QUIET HUMANITY AND HIS WILLINGNESS TO LISTEN

After his five-year term as President, Dr Wyman became the first Chair of the Alberta Human Rights Commission (1974). He was a member of the Kirby Com-

mission of Inquiry studying the justice system of Alberta's lower courts and wrote supplementary comments to the commission's report. He was also a member of the National Research Council of Canada and the Federal Electoral Boundaries Commission for the Province of Alberta.

His academic affiliations included membership in the New York Academy of Sciences, the Canadian and American Mathematical Society, and the American Institute of Physics.

In recognition of his wide interests in law, philosophy, civil rights and education, as well as his own field of mathematics, he was appointed University Professor in 1974. In 1982 the University made him an honorary Doctor of Laws.

Max Wyman was born in Lethbridge in 1916. He graduated from the University of Alberta in 1937 and earned his PhD magna cum laude from the California Institute of Technology only three years later. He joined the staff of the University of Alberta in 1943, became Head of the Department of Mathematics in 1961, and in 1963 was appointed Dean of Science.

Budget proposals Continued from page 1

He described the recommendations as "illustrative, not definitive," and said, "We wouldn't propose the closure of a unit if it wasn't in the best interests of the University. These cuts are substantial and they're painful."

Asked about contractual agreements, President Davenport said he was a firm supporter of tenure and did not intend to break it as part of the proposed cutbacks. "We can't give you a count on job loss now," he replied when questioned about the number of support staff and nontenured faculty that might be lost. It was later speculated that as many as 200 support staff could lose their positions if the proposals are approved by the Board of Governors and, in certain cases, the Minister of Advanced Education. (The Minister is required to review deci-

sions by university boards of governors which involve significant reductions in student numbers.)

It is known that the Vice-President (Academic) intends to remove 18 vacancies from nine Faculties and to transfer them to the Faculties of Arts, Science and Pharmacy and Pharmaceutical Sciences.

U of A Board of Governors Chairman Stan Milner said he wasn't prepared to comment until the proposals are discussed by the Board. He indicated, however, that the Board "generally supports what's in the document."

"We announced last fall that our approach to budgetary changes would be an open one," President Davenport said. "There will be ample opportunity for those who don't agree with us to express their views."

Photo Services



Stan Milner, Paul Davenport and Peter Meekison (left to right) convey grim news.

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University
of
Alberta

LETTERS

DIFFERENT MEMENTO NEEDED

Recently I attended the ceremonies for those of us who have worked at the University of Alberta for 25, 30, and 35 years. We received plaques of wood and metal which were impressive and probably expensive. While it is appropriate to honour long serving employees, I know of a nonacademic staff member who has worked for the University for 24 years. He has just received notice of termination. The University will not have to buy a plaque for him next year.

If, instead of a plaque, we had simply received something on paper, or a ribbon, how much money would have been saved? How many months' salary for terminated employees do these plaques represent? At the same ceremony we were treated to wine. But no juice was available. Would we have saved a little money if juice were available?

Admittedly, these items are small in the University budget, but they are symbols. If we are serious about resisting increased tuition fees, about regretting the loss of certain personnel, we need to be credible in the way we spend our pennies as well.

Jim Hackler
Professor of Sociology

University education needed now more than ever

CANADIANS POLLED SAY FEDERAL FUNDING SHOULD RISE

A recent poll shows that the great majority of Canadians consider university education to be important to this country's economic competitiveness and social development.

According to a survey undertaken by the Angus Reid Group on behalf of the Association of Universities and Colleges of Canada (AUCC), not only are most Canadians of the opinion that the federal government should continue to fund university education, a majority believe that the federal contribution should increase.

"YET," SAYS AUCC PRESIDENT CLAUDE LAJEUNESSE, "FEDERAL ACTION IN THE AREA OF FUNDING UNIVERSITY EDUCATION HAS BEEN IN DIRECT CONTRAST TO THE OVERWHELMING SUPPORT GIVEN BY THE CANADIAN PUBLIC."

Another finding was that a majority of Canadians in all regions feel the federal government should develop a national strategy for university education.

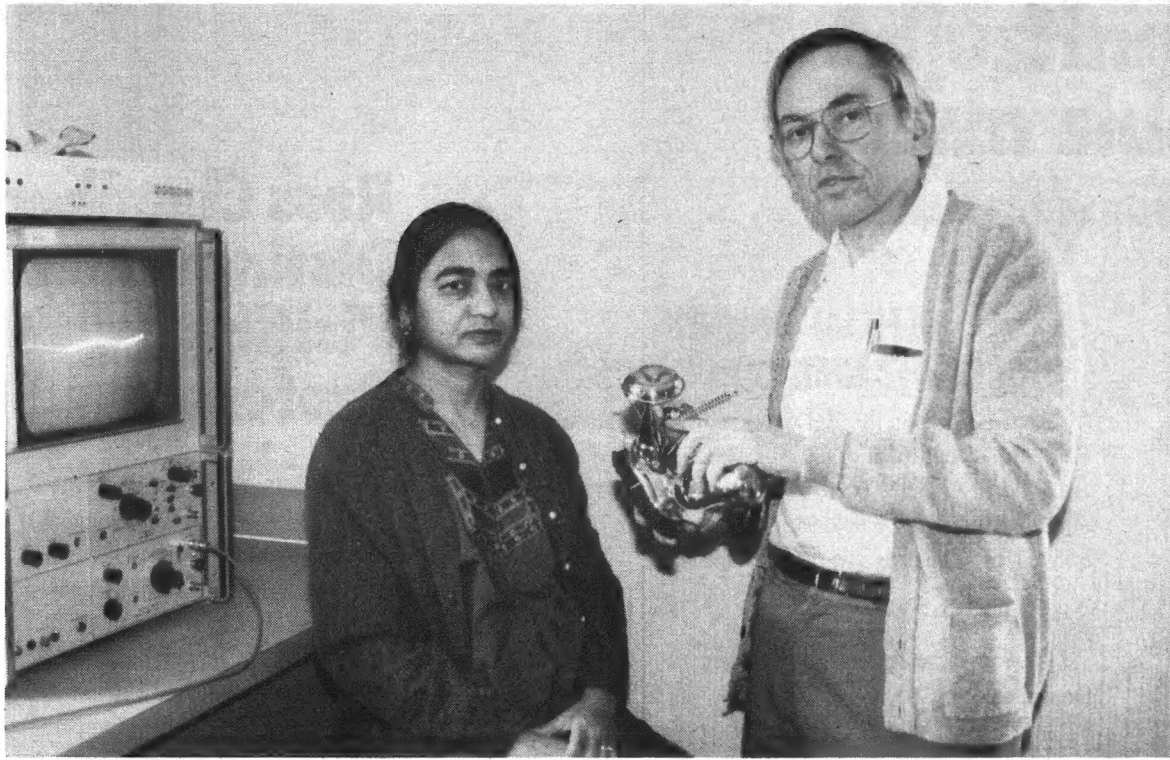
Seven out of every 10 (69 percent) of the Canadians surveyed between 16 and 21 January 1991 think that university education is "very important" to Canada's economic competitiveness and social

development. An additional 26 percent of those polled felt that university education is "somewhat important" to achieve these objectives.

Of Canadians polled, 93 percent agree that, in order to contribute to Canada's economic competitiveness and social development, the federal government should continue to provide funds to support university education. Fifty-nine percent believe an increase in federal payments to the cost of university education is warranted; 33 percent said the amount of funding should stay the same.

AUCC, which represents 89 universities and university colleges across the country, has recommended to the Minister of Finance that:

- the federal government develop a clear definition of its own role in supporting postsecondary education;
- pending a reform of the Established Programs Financing (EPF) arrangements under which payments are made to the provinces for postsecondary education, these payments stay at the level they were before cutbacks announced in the last budget;
- funding for university research be doubled over three years;
- student aid be reformed, so rising tuition and other costs do not bar any bright young Canadian from the ranks of the highly-qualified innovators and managers the country needs in the era of globalization;
- the government actively encourage the internationalization of Canadian universities, to increase their capacity to educate Canadians to operate effectively in an increasingly complex international environment.



John Ohala and his wife, Manjari, set up shop in Assiniboia Hall.

AGT funds visiting professorship in Linguistics Department

With the burgeoning demand for new technologies, an increasingly important goal for telecommunication companies is to develop better machines for simulating and responding to human speech. In particular, speech recognition will be of strategic importance in the next wave of speech technology, and AGT has funded a two-year visiting professorship in the Department of Linguistics in order to enhance the company's progress in that area.

The new AGT Visiting Professor of Linguistics is John Ohala, Professor of Linguistics at the University of California, Berkeley, and an expert in phonetics and phonology. Professor Ohala's research will include a joint project with AGT, to look at the acoustic and perceptual

properties of emphatic speech, that is, speech intended to correct a listener's misunderstanding.

In addition, he will be serving as consultant to other AGT researchers and, by teaching graduate courses at the University of Alberta, extending the expertise of potential future employees. "So there are a number of benefits to AGT in this arrangement," says Vera Sanger, Research and Development Program Manager for AGT.

Professor Ohala's on-campus colleagues naturally also find the arrangement beneficial. "John is a high profile phonetician from UC Berkeley," says John Hogan, Acting Chair of Linguistics. In addition to Professor Ohala's research contributions and his work with graduate students, "Having him here will

increase the international visibility of the department and the University," Dr Hogan says.

Professor Ohala is equally enthusiastic about the opportunity, noting that AGT is quite progressive in comparison to other companies he has dealt with. He says their interest in speech recognition is economically understandable, "but I also appreciate their enthusiasm and their interest in learning about speech."

He also appreciates the opportunity to work with the world-class phonetic and phonological researchers on staff at the University of Alberta, and with scholars specializing in the phonological history of languages. "There are very good people here. This is great for someone like me."

Professor Ohala will be here through December 1992.

Brendan Gail Rule, 1937-1991

Brendan Gail Rule, professor of psychology and Director of the Centre for Gerontology at the University of Alberta, died on 8 February, aged 53.

Dr Rule's achievements in teaching, research and in public and professional areas were impressive. She was a prime mover in the establishment of the Centre for Gerontology to provide a focus for the study of the psychological processes associated with aging. Described as a "bridge builder", Dr Rule was noted for her ability to connect new perspectives to established problems and for her generous assistance and encouragement to colleagues and students alike. Her very major contributions in her area of research were recognized last year when she was awarded the University of Alberta's highest research honour: the J Gordin Kaplan Award for Excellence in Research.

The Government of Alberta also recognized Dr Rule's eminence in her field in appointing her in 1990 for a three-year term as the prov-

ince's university representative to the Seniors Advisory Council for Alberta.

At the time of her death, Dr Rule was the principal investigator or associate investigator on grants totalling more than \$1 million from seven provincial and national agencies.

Dr Rule published one book and more than 100 refereed publications and conference papers or abstracts as well as many invited addresses to universities and research institutes around the world.

A natural extension of Dr Rule's research was her extraordinary involvement in graduate student supervision: she supervised more than 30 honors, 26 master's, and 25 doctoral theses. A significant number of her PhD students have achieved notable academic and research positions throughout the world.

Dr Rule was on the editorial board of six major international journals and was the associate editor and then editor of the two key jour-

nals in her field of research. She was a member of the board of directors of the Canadian Psychological Association and the Social Sciences Federation where she was a key figure in the establishment of research strategy and directions.

Brendan Gail Rule was born in Brooklyn, New York, in 1937. She received her BA in 1959 from the University of California at Riverside, two years later her MA from the University of California, Santa Barbara, and only one year later her PhD from the University of Washington. She joined the University of Alberta in 1962 and was promoted professor in 1972.

Eugene Lechelt, Chair of the Department of Psychology, described Dr Rule as "an exemplary scholar and University citizen whose contributions extended far beyond the confines of the University of Alberta or the discipline of psychology. Her dedication, humanity, and sense of social responsibility will be sorely missed."

CURRENTS

GENERAL FACULTIES COUNCIL

GFC's next meeting is scheduled for *Monday, 25 February, at 2 pm* in the University Hall Council Chamber.

1. Approval of the Agenda
2. Approval of the Minutes of 25 January 1991
3. Oral Report from the President
4. Question Period
5. New Members of GFC 1991-92

REPORTS

6. Executive Committee Reports
 - 6.1 Summary of Executive Committee Minutes of 4 February 1991
7. Report of the Board of Governors of 1 February 1991

DEFERRED FROM 26 NOVEMBER 1990 AND 28 JANUARY 1991

9. GFC Committee on Admissions and Transfer (CAT): 1989-90 Annual Report
10. Waiver of Advertising: Report from the Vice-President (Academic)
11. General Appeals Committee (GAC): 1989-90 Annual Report

DEFERRED FROM 28 JANUARY 1991

12. Discipline Cases: 1989-90 Annual Report to GFC on Number and Disposition of Cases
13. University Response to a Student Death: Recommendation from the Council on Student Life (COSL)
14. Quota Reports on 1) 1990-91 Admissions to Quota Programs and 2) Senate Lay Observers Report on 1990 Admission to Quota Program
15. GFC Conference Funds Committee (CFC): Annual Report 1989-90
16. GFC Facilities Development Committee (FDC): 1990 Annual Report
17. Council on Student Life (COSL): Proposed Changes in Composition
18. Citizenship Restrictions on Student Awards: Response to GFC Request for Information
19. Reapportionment of Staff and Student Seats on GFC

NEW BUSINESS

20. Code of Student Behavior: Proposal from the GFC Campus Law Review Committee (CLRC) Concerning Student Group Registration and Discipline Procedures
21. Code of Student Behavior: Proposal from the GFC Campus Law Review Committee (CLRC) Concerning 1) the Responsibility of Instructors/Deans in Academic Offence Situations and 2) Penalties for Academic Offences
22. Code of Student Behavior: Proposal from the GFC Campus Law Review Committee (CLRC) Concerning Suspending/Rescinding of Degrees
23. Lister Residence Community Standards (LRCS): Recommendation from the GFC Campus Law Review Committee (CLRC)
24. University Research Policy Committee (URPC): 1990 Annual Report
25. Council on Student Life (COSL): 1990 Annual Report
26. Other Business

FORUM ON WOMEN AND PEACE

A forum on women and peace has been scheduled for 10 March, 12:30 to 5:30 pm, in 2-115 Education North. The forum, which will include workshops and speakers, is sponsored by the Women's Studies Program, Women's Program and Resource Centre and Women's Research Centre.

For more information, call Janice Williamson, 434-7792/492-2180, or Diana Chown, 433-1525.

PROFESSIONAL DEVELOPMENT - TRAINING SESSION

Topic: "Maximizing Energy, Minimizing Stress." *Date and time:* 19 April, 9 am to 4 pm. *Location:* Banquet Room, Lister Hall. *Workshop leader:* Vivian Quiring, BSc, consultant and seminar leader, Vivian Quiring and Associates, Toronto. *Fee:* \$75 (includes materials, luncheon and refreshments). Those eligible may also claim registration fee from Professional Expense Allowance, Central Professional Development Fund or Human Resource Development Fund. (CPDF and HRDF may be charged to 1991-92.) *Registration deadline:* 27 March (call Gail Bamber, 492-2796, for registration form).

This session is open to all staff.

Instructional Fair '91

The Faculty of Education and the Office of the Committee for the Improvement of Teaching and Learning (CITL) are sponsoring the second Instructional Fair to demonstrate some of the ways in which communications and information technologies are being used in teaching and learning in University courses.

The Fair will be held 12 and 13 March from 1 to 4 pm in 2-111 Education North. Fairgoers will see instructional solutions developed for distance learning and on-campus courses. Innovative ways of using technology in lectures, small group work, simulations, and individual study will also be featured. The

hardware used will include computers, videotape and videodisc, with a variety of software.

Instructors will be able to select those techniques they find most interesting and to talk with the instructors and developers who conceived and developed them. The same selection of projects will be offered each afternoon so interested faculty members and instructors can pick the afternoon that is most convenient for them.

The Faculty of Education and CITL extend a cordial invitation to all University instructors and their counterparts at other educational institutions to visit the Instructional Fair.

SEARCH COMMITTEE FOR VICE-PRESIDENT (ACADEMIC)

Dr Peter Meekison is resigning from his position as Vice-President (Academic) effective 31 August 1991 at the earliest, or 31 December 1991 at the latest. The President is therefore striking a Search Committee.

The composition of the Search Committee for Vice-President (Academic) includes three members of the full-time and continuing part-time faculty who do not hold administrative positions and who are not on leave. Nominations for these positions are now being sought.

Written nominations supported by the signatures of five members of the full-time and continuing part-time academic staff (not including the nominee) may be submitted to the Director of the University Secretariat, Ellen Schoeck, 2-5 University Hall. *Nominations must be received by 15 March 1991, 4:30 pm.* Nominees must agree to stand for election to the Search Committee. GFC regulations require that nominees may not be holders of administrative positions, such as Dean or Department Chair, since administrators are already represented on the Search Committee. The full composition of the Search Committee for Vice-President (Academic), together with nomination and election procedures, are contained in Section 102 of the GFC Policy Manual. Individuals who have questions about eligibility to serve or to nominate, are asked to call Ellen Schoeck at 492-5430.

Willma Cook, 1930 - 1991

Willma Cook, Administration Clerk in the Department of Zoology, died 6 February, two days after suffering a heart attack and undergoing by-pass surgery.

Speaking of behalf of the department, Administrative Professional Officer Don Paradis said: "Willma was a kind and gentle lady, and a dear friend. She was dedicated to us all, and was a highly regarded member of our department. She will be greatly missed by her many friends and acquaintances."

Mrs Cook was born 26 March 1930 in Calgary. She came to the University of Alberta in 1973, working for six years as Administration Clerk in the Faculty of Dentistry. She had held the same position in the Department of Zoology since 1983.

Mrs Cook was predeceased by her husband, and is survived by her four children (Ross, Tara, Patti and Dana), her brother Hollis Ross, niece Loretta Kirkby, and three grandchildren.

Warming trend approaching

The news from Tom Nelson and Tore Langnes is best taken sitting down.

Dr Nelson (Psychology) and Dr Langnes, a leading Norwegian heating specialist, have developed a compact heating unit that the individual can position underneath their desk and adjust as they see fit.

In a whirlwind call on Bob Busch, Associate Vice-President (Research), last week, Drs Nelson and Langnes said the unit delivers a small amount of heat directly to where the individual wants it. "Few

are ever comfortable with the temperature when someone else sets it," Dr Nelson pointed out. The product, which evolved from basic research that he conducted in a climatic chamber here at the University, provides local heating perfectly suited to the person at the desk. Drs Nelson and Langnes cited two other advantages: savings (about 18 percent comes off the heating bill if the building temperature is lowered 3.5 degrees, Dr Nelson figures) and increased productivity (people tend to produce more and not get as tired when the temperature is lower, he said).

OFFICIAL OPENING 500 MHZ NMR LABORATORY

As was noted in the 20 December 1990 issue of *Folio*, the Department of Chemistry has installed a modern 500 MHz NMR Spectrometer. The official opening of this facility will be held Monday, 11 March, in Chemistry E1-60. The program is as follows:

2:00 PM
Greetings: Dr B Kratochvil, Chair, Department of Chemistry
Dr WJ McDonald, Dean, Faculty of Science
Dr P Davenport, President

2:30 PM
Dr Paul A Keifer, Applications Chemist at Varian NMR Instruments in Palo Alto, California, will speak on "Recent Developments from the Varian Applications Lab"

3:20 PM
Dr David E Wemmer, Associate Professor, Department of Chemistry, University of California, Berkeley, California, will speak on "Ligand Binding. The View by NMR"

4:10 PM
Dr Thomas L James, Professor of Chemistry, Pharmaceutical Chemistry and Radiology, University of California, San Francisco, California, will speak on "Working Towards High-Resolution DNA and Protein Structures in Solution"

5:00 PM
Wine and Cheese Reception

This open house is sponsored by the Department of Chemistry at the University of Alberta together with Varian Canada, Inc.

Ross Chambers: Distinguished Visiting Professor

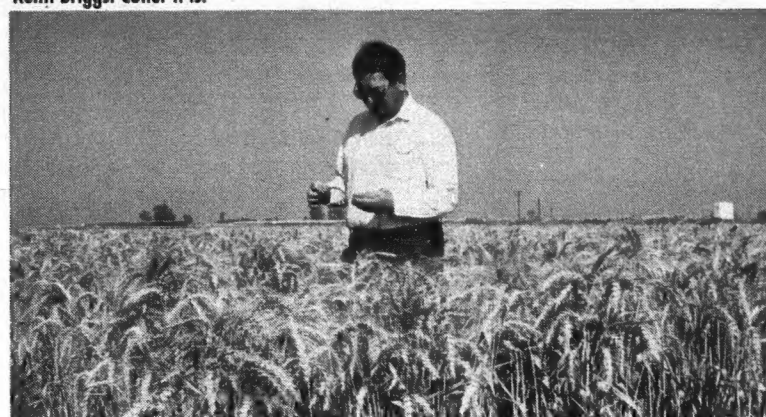
Ross Chambers, a literary critic and theorist, will be a Distinguished Visiting Professor at the University of Alberta (Department of English) from 23 February to 10 March.

Professor Chambers is Marvin Felheim Distinguished University Professor of French and Comparative Literature at the University of Michigan. He has written a number of books, the most recent being *Narrative in Opposition*. It is a sequel to *Story and Situation*, of which one scholar at this University said: "It has created a near sensation among students of narrative and has opened up a new avenue in the field."

While on campus, Professor Chambers will arrange appointments with those who request them. He will also discuss his work-in-progress, *Fables of the Go-Between*. His lectures, which are noted in the "Events" column in this issue, are open to the public and the University community. They will take place in 5-20 Humanities Centre.

Professor Chambers is a Fellow of the Australian Academy of the Humanities, Officier de l'Ordre des Palmes Académiques (France), a member of the advisory board of *PMLA* and has written in French and English on literature in those languages.

Keith Briggs: Cutler it is.



New variety of wheat developed here

CUTLER WHEAT WILL BE EARLIEST-MATURING WHEAT IN CANADA

Technology transfer sometimes involves a real growth industry. A new variety of wheat developed at the University of Alberta has been officially registered by Agriculture Canada, Food Production and Inspection Branch, and now can be released for commercial distribution to farmers.

The new variety was developed by plant breeder Keith Briggs, Professor and Chair of the Department of Plant Science. It was named Cutler in honour of the department's first chairperson.

Cutler wheat, which will be the earliest-maturing wheat in Canada, is especially well suited for the wetter parts of western Canada. Dr Briggs says, "This variety is for the farmer who is worried about the bad weather in the fall and is concerned about getting the crop off."

Dr Briggs notes that Cutler also appears to have a high tolerance to soluble aluminum, which can be toxic to plants and is prevalent in much of the soil and subsoil in northern Alberta.

Nearly 10 years of research went into breeding the new variety, and several more went into testing it in cooperative field trials across the region. Now that it has been approved and registered, additional pedigreed seed will be grown for commercial sale, and Cutler will become widely available to farmers in 1993.

Marketing rights for that sale and distribution have been awarded, through public tender, to United Grain Growers Ltd. Royalties on the sale of pedigreed seed will revert to the University to fund continued research.

The registration is an important marker in Dr Briggs's research program, which has focused on high plant yield combined with early maturity. "We've been looking for this for years. Now that we have it, we have a huge agenda of research that we can build on.... As a benchmark, when you're a breeder, the variety is everything."

Adjusting to the down side of progress

FORT MACKAY BAND DOING SO ON ITS OWN TERMS

In her quiet, strong voice, Chief Dorothy McDonald of the Fort MacKay Indian Band talked about how the tar sands plants near Fort McMurray had drastically disrupted and nearly destroyed her community.

"We had been living off the land ... just living peacefully, being healthy." When construction started, no one came to the community to prepare people for the changes, she said.

Chief McDonald spoke on "Industrial Development and its Effect on Native People" in the Contemporary Cultural Issues session 7 February, sponsored by the Vice-President (Academic), Dean of Arts, English, Women's Studies, and Native Student Services. Ultimately, she reassured her audience, the community took steps to save itself.

NATIVE PEOPLE CONSIDER THEMSELVES PART OF THE LAND, CHIEF McDONALD ASSERTED. "SO WHEN YOU ARE DESTROYING THE LAND, YOU ARE DESTROYING US."

Construction on the first oil sands development began in 1961 and brought economic boom to the area. Jobs, money, a road to the community. "The impact was devastating," Chief McDonald recalled. "We

didn't know how to handle it. We were losing our way of life, living off the land and going to work. We were totally confused because we were living in two different worlds." When Suncor began operation, the river became polluted, she said. Elders and babies became ill first. "We brought our water to Edmonton to be tested and they made us boil the water ... up to half an hour. But no one told us you couldn't boil heavy metals and chemicals out of water," she reported. Even rainwater left an oily film and stank, she added.

Fish and game were contaminated and could no longer be eaten. The situation grew worse as people didn't know how to handle the changes. "It was really hard to watch the people drink. Families were breaking up, there were a lot of suicides," Chief McDonald said. "The money didn't do any good for our people." The impact of development was all negative until the community said it was being overrun.

First it was Suncor and Syncrude, then logging trucks started coming through the community, Chief McDonald continued. But there were no contracts or jobs with this latest assault and so the Band put up a roadblock. "People had just had enough," she said.

Finally, in 1982, because of the roadblock, the government began to listen, she said. The Band, which refused to relocate despite pollution, got the water and sewage treatment plants, better housing, a community

hall and office space it needed. The Fort MacKay Interface Committee was set up with the provincial Departments of Forestry, Environment and Social Services; government money helped set up Band companies and both Syncrude and Suncor signed contracts with them for jobs. Today, air quality has improved, noted Chief McDonald, but she added, "There is no effort to clean the water. Syncrude is dumping its sewage into the river." To deal with the social impact of development, the Band now has an AADAC program, a social worker and an employment and training coordinator. And it is trying to bring traditional culture back to its people.

The Fort MacKay Band lives on provincial land. It moved from reserve land in 1952 when the government put its school across the Athabasca River and said Band children had to attend, Chief McDonald explained. "We have no say [regarding development] because we don't live on a reserve," she said. Now the Band is working to get the side of the river it wants designated as a reserve so the community can have water rights.

Native people consider themselves part of the land, Chief McDonald asserted. "So when you are destroying the land, you are destroying us." But until the Fort MacKay Band lives on reserve land, "it's like your son or daughter's being abused but you're helpless because your hands are tied and you have no right to say anything or do anything," she concluded.



Photo Services

The Norwegian Research Council and the Norwegian firm Telco have put up \$200,000 for initial production of the heating unit and a marketing system involving NOBO, one of the biggest producers of electrical heaters in Europe, is in place. Drs Nelson and Langnes are now knocking on doors to gauge the interest at the University and elsewhere. Dr Langnes said, "There's a

huge North American market. There's good support from the University but we need external funding."

SINTEF, a Norwegian research organization that is somewhat like the Alberta Research Council, will soon certify what energy savings the unit can bring about, Dr Langnes said.

Tom Nelson (centre) and Tore Langnes convince Bob Busch (left) that in their two kg heating device, they're on to something big.

'A European Germany, not a German Europe'

Distinguished German journalist Carl Weiss discussed the European Community (EC) in a lecture 11 February, hosted by the Centre for International Business Studies, in cooperation with the Consulate General of the Federal Republic of Germany.

In his talk, "A European Germany, not a German Europe," Weiss addressed initial concerns of some EC members about German unification. A unified Germany, with 78 million people, changed the symmetry and balance among EC members, he said. Some countries feared "that Germany would turn more to the east and would neglect the European partners, or become Europe's 'bully-boy,' or become so absorbed by its internal problems" that it would ignore EC developments, he explained.

"These mistrusts were laid to rest," Weiss stated. "The last year has shown that Germany not only does not permit neglect of its EC engagement, but works with increased fervor in the development of the Community." He said Germany has not asked for increased shares in

EC institutions or agencies, or for more votes, subsidy privileges, jobs or benefits because of its increased size. And it hasn't initiated ventures with newly emerging eastern bloc countries at the expense of its EC commitments.

"THE EC IS NOT THE UNITED STATES OF EUROPE. THIS IS MERELY THE FACILITATED COMMON MARKET OF 12 COUNTRIES OUT OF PERHAPS 20 OR MORE FUTURE MEMBERS..."

Weiss described the progress of the EC. "The European Community seems to be in disarray, but has it ever been in 'array'?" he pondered. In the 1980s, after frustrating difficulties with the steel industry, nuclear energy industry and agricultural policies, politicians expressed a new will to proceed, he said. "There was a grow-

ing anxiety that the old European states might fall behind in the fields of high tech and other innovations if each of them tried to develop alone," he added. The turning point came in 1986 with "a series of far-reaching agreements for the creation of a common domestic market to begin in 1993," said Weiss. Goods, capital, services and workers may be freely exchanged at "approximately equal conditions," he explained. The EC resolved to "harmonize" and deregulate as much as possible.

Government administration, taxation systems, education and culture are not included, Weiss said. And it has proven almost impossible to standardize wage levels, pensions, and other aspects of social policy, he added. "Social mobility may not be as dramatic as predicted," he said, citing language and living condition differences. And, he emphasized, armed forces and defence policy remain national, although in the long run, a unified stand may be desirable.

"The EC is not the United States of Europe," stressed Weiss. "This is merely the facilitated common market of 12 countries out of perhaps 20 or more future members in Europe."

A surprising area of success has been ecology, Weiss noted. "A mountain of new regulations for the protection of the environment is being created in concert."

The EC will expand after 1992, said Weiss. Countries want to join because "the EC is an economic success and promises stability" and it is "about to become the world's biggest consumer market," he said. Weiss thinks economic and monetary union will become a reality, despite the loss of sovereignty regarding budgetary and fiscal policy. And indications from recent meetings show EC members more ready than before to consider political as well as economic union, he said. At this point, though, there is, understandably, more talk about institutional balance than joint policies because of "historical differences" among EC members. But that may change, he suggested. "We want to have this Community," he stressed in conclusion.

EVENTS

TALKS

LAW

23 February, 9:30 am
Saturday Morning at the Law School—"Buying a Home." Information: 492-3115, Law Centre.

COMMITTEE FOR THE IMPROVEMENT OF TEACHING AND LEARNING

25 February, 3:30 pm
Alexander J Matejko, "East European Learning Experiences: A Personal Account." TBW-2 Tory Breezeway.

26 March, 3:30 pm
CIJM Stuart, "How to Be a Student." 235 CAB.

27 February, noon
Leslie Aitken, "Books for the Desert Island: How to Select a Textbook That Will Both Instruct and Enchant." TBW-2 Tory Breezeway.

27 February, 3 pm
John Shaw, "Field Trips—Who Was Supposed to Book the Bus?" TBW-2 Tory Breezeway.

28 February, 3:30 pm
Jim E Simpson, Edmonton Public Schools, "The Good Art of Teaching." 235 CAB.

5 March, 2 pm
Blair Bunkley, Integrated Neuro Systems Inc. "The Language of the Mind." TBW-2 Tory Breezeway.

5 March, 3 pm
Eugene C Lechelt, "Teaching and, Hopefully, Learning in Large Undergraduate Courses." 235 CAB.

7 March, 12:30 pm
Bruce Caldwell and Doug Weir, "Teaching Students From Another Culture." 172 HUB International.

7 March, 3 pm
Paula A Brook and Linda LaRocque, "Where Are You on the Faculty Development Scale?" 235 CAB.

ACCOUNTING

25 February, 3:30 pm
Philip Brown, KPMG Peat Marwick Professor of Accounting, University of Western Australia, "Asset Revaluations and Managerial Incentives." Stollery Centre, Business Building.

26 February, 6 pm
Philip Brown, "Market Microstructure and its Implications for Capital Markets Research Design." Stollery Centre, Business Building.

CONTEMPORARY CULTURAL ISSUES

25 February, 4 pm
Lorraine Weir, Department of English, University of British Columbia, "'On Lies, Secrets, and Silence': Adrienne Rich Revisited." L-3 Humanities Centre.

11 March, 4 pm
Richard Dellamora, Department of English, Trent University, "The Political Unconscious of Postmodernism." L-3 Humanities Centre.

PHARMACOLOGY AND CARDIOVASCULAR RESEARCH GROUP

25 February, 4 pm
Alan RP Paterson, "Nucleoside Permeation: An Update." 207 Heritage Medical Research Centre.

4 March, 4 pm
Robert Malenka, Department of Psychiatry, University of California, San Francisco, "Postsynaptic Mechanisms Underlying the Induction of Long-Term Potentiation." 207 Heritage Medical Research Centre.

OCCUPATIONAL THERAPY

25 February, 4:30 pm
David Osborne, University College of Swansea, Wales, "Ergonomics and New Technology." 1009 Nurses' Residence.

INTERNATIONAL CENTRE

26 February, 12:30 pm
Smita Swarup, "Bargaining and Dependency: The State and Transnational Oil Companies in Indonesia." 172 HUB International.

27 February, noon
Darren Headley, "The Four Worlds Development Project: Health Promotion and Sustainable Economic Development in Native Communities." 172 HUB International.

5 March, 12:30 pm
Kathryn Olson, project coordinator, Edmonton Food Policy Council, "Poverty's Female Face." 172 HUB International.

6 March, noon
Luul Isaac, Eritrean Relief Association, "Women in Eritrea." 172 HUB International.

HUMAN ECOLOGY: ISSUES IN THE NORTH

26 February, 3:30 pm
B Larke, "Delivering Complex Health Messages to Northern People." 207A Law Centre.

5 March, 3:30 pm
C Hobart, "Impact of Industry on Northern Families." 207A Law Centre.

ECONOMICS

26 February, 3:30 pm
Martin Browning, McMaster University, "Consumption Over the Business Cycle and Over the Life Cycle." 8-22 Tory Building.

ANTHROPOLOGY

26 February, 3:30 pm
HT Lewis, "Rediscovering the Origins of Agriculture in South Australia." 14-6 Tory Building.

ENGLISH

26 February, 3:30 pm
Ross Chambers, Departments of Romance Languages and Comparative Literature, University of Michigan, "Fables of the Go-Between (on Mediation), Part I: Scapegoating the Mediator (La Fontaine, 'The Eagle, the Sow and the Mother Cat')." 5-20 Humanities Centre.

27 February, 4 pm
Ross Chambers, "Fables of the Go-Between (on Mediation), Part II: Controlling Agency (Le Carré, *The Spy Who Came In From the Cold*)." 5-20 Humanities Centre.

28 February, 3:30 pm
Ross Chambers, "Meddling in Marriage (on Seduction), Part I: Reforming the Meddler (Austen, *Emma*)." 5-20 Humanities Centre.

1 March, 4 pm
Ross Chambers, "Meddling in Marriage (on Seduction), Part II: Expelling the Meddler (Balzac, *Modeste Mignon*)." 5-20 Humanities Centre.

4 March, 4 pm
Ross Chambers, "Parasites at Work (on Agency), Part I: The Flâneur as Hero (Baudelaire)." 5-20 Humanities Centre.

5 March, 3:30 pm
Ross Chambers, "Parasites at Work (on Agency), Part II: The Flower Beneath the Foot (Hollinghurst, *The Swimming Pool Library*)." 5-20 Humanities Centre.

6 March, 4 pm
Ross Chambers, "The Minaret and the Oven (on Appropriation), Part I: The Muezzin's Voice (Chraïbi, *The Mother of Spring*); Theses on Appropriation." 5-20 Humanities Centre.

7 March, 3:30 pm
Ross Chambers, "The Minaret and the Oven (on Appropriation), Part II: Trouble in the Kitchen (Jolley, *The Sugar Mother*)." 5-20 Humanities Centre.

12 March, 3:30 pm
Richard Dellamora, Department of English, Trent University, "Theorizing Literary Fictions of AIDS: Edmund White's 'An Oracle'." 5-20 Humanities Centre.

PHARMACY

26 February, 3:30 pm
JR Dimmock, College of Pharmacy, University of Saskatchewan, "Cytotoxicity of Various Mannich Bases of Conjugated Styryl Ketones Towards Cancerous Tissue." 2031 Dentistry-Pharmacy Centre.

ALBERTA HERITAGE FOUNDATION FOR MEDICAL RESEARCH

26 February, 4 pm
David L Paul, assistant professor, Department of Anatomy and Cellular Biology, Harvard Medical School, "Can We Talk? Functional Diversity Among Connexins, the Family of Gap Junction Proteins." Presented by Anatomy and Cell Biology. 5-10 Medical Sciences Building.

5 March, 4 pm
Lisa McKerracher, assistant professor, Department of Neurology and Neurosurgery, McGill University, "The Retinal Ganglion Cell Cytoskeleton After Axonal Injury." Presented by Anatomy and Cell Biology. 5-10 Medical Sciences Building.

ANIMAL SCIENCE AND NUTRITION AND METABOLISM RESEARCH GROUP

27 February, 11 am
Leslie E Hart, assistant professor, Department of Animal Science, University of British Columbia, "Mineral Metabolism in Altricial and Precocial Avian Embryos." 2J4.02 Mackenzie Health Sciences Centre.

HISTORY

27 February, noon
José Curto, "Sources for the Pre-Colonial Population History of Angola, 1773-1845." 2-58 Tory Building.

1 March, 3 pm
Frank Sysyn, "The Rebirth of Historical Controversy in the Soviet Union." 2-58 Tory Building.

7 March, 7 pm
AN Sakharov, Vice-Director, Institute of History of the USSR Academic of Sciences, Moscow, "Soviet Totalitarianism as We See It." TBW-2 Tory Building.

11 March, 2 pm
AN Sakharov, "Current Stage of the Soviet Historical Science." 436 Arts Building.

14 March, 11 am
AN Sakharov, "Specific Features of Russian Medieval Social Upheavals." TWB-2 Tory Building.

GEOGRAPHY

27 February, 3 pm
Michael Novak, Department of Soil Science, University of British Columbia, "Understanding Energy and Mass Exchanges Between the Soil and the Atmosphere." 3-36 Tory Building.

1 March, 3 pm
Ray Fortune, director, Alberta Telecommunications Research Centre, "The Process of High Technology Business Development: How Ideas Get to Market." 3-36 Tory Building.

PHYSICAL EDUCATION AND SPORT STUDIES

27 February, 4 pm
RD Steadward, "Sport Science and Training: Implications for the Disabled." E-120 Van Vliet Centre.

CIVIL ENGINEERING

28 February, 3:30 pm
G Milne, "Mixing and Decay of Chlorinated Water Treatment Plant Discharges in the North Saskatchewan River." 336 Civil Engineering Building.

CLOTHING AND TEXTILES

28 February, 11 am
R Heimann, Alberta Research Council, "Development of Fibre Coatings for Industrial Purposes." 131 Home Economics Building.

7 March, 11 am

Lee Bale, head of craft and design, School of Craft and Design, Sheridan College, "Clothing the Wild Beast." 131 Home Economics Building.

GEOLOGY

28 February, 11 am
Arne Bjorlykke, Department of Geology, University of Oslo, Norway, "Early Proterozoic Orogenic Evolution of the Northern Part of the Baltic Shield and Associated Gold-copper Deposits." 104 Earth Sciences Building.

LIMNOLOGY AND FISHERIES DISCUSSION GROUP

28 February, 12:30 pm
John Smol, Queen's University, "Paleolimnological Assessments of Lake Acidification." M-149 Biological Sciences Centre.

7 March, 12:30 pm
Dale Vitt, "Temporal and Spatial Patterns of Water Chemistry in Boreal Wetlands." M-149 Biological Sciences Centre.

SOIL SCIENCE

28 February, 12:30 pm
Steve Hudey, "Remediation of Industrially Contaminated Soils." 2-36 Earth Sciences Building.

7 March, 12:30 pm
Robert Grant, "Carbon Dioxide Effects Upon Photosynthesis of Transpiration and Growth of Field Crops." 2-36 Earth Sciences Building.

CHEMICAL ENGINEERING

28 February, 3 pm
Greg Holloway, "Enzymatic Synthesis of Carbohydrates." E342 Chemical-Mineral Engineering Building.

7 March, 3 pm
The JT Ryan—WH Griffin Team, "Ventilation in Potash Mines: A Deep Subject." E342 Chemical-Mineral Engineering Building.

SLAVIC AND EAST EUROPEAN STUDIES

28 February, 3:30 pm
Irene Jendzjowsky, facility manager, Ukrainian Cultural Heritage Village, "Living History as an Instrument to Learning in an Open Air Museum" (presented in Ukrainian). 141 Arts Building.

7 March, 3:30 pm
Ruth Lysak-Martynkiw, project historian (intern), University of Calgary/Alberta Culture and Multiculturalism, "Bukovynian Women's Clothing Among the Settlers of East Central Alberta, 1890-1930" (presented in Ukrainian). 141 Arts Building.

MUSIC

28 February, 3:30 pm
Jacobus Kloppers, The King's College, "Bach: Artist or Saint? The Dualistic Controversy Regarding Bach's Creative Process." 2-32 Fine Arts Building.

6 March, noon
Helmut Brauss, "The Sustaining Pedal: Artistic Tool or Cover-up?" 1-29 Fine Arts Building.

BOTANY

28 February, 4 pm
John P Smol, Department of Biology, Queen's University, "Assessment of Climatic Trends Using Paleolimnological Techniques: Speculations on High Arctic Ecosystems and Saline and Maritime Lakes." M-149 Biological Sciences Centre.

ENTOMOLOGY

28 February, 4 pm
Dean Mulyk, "*Saldula pallipes* (Hemiptera: Saldidae) Species Complex or Just a Complex Species?" TBW-1 Tory Breezeway.

LINGUISTICS

28 February, 5 pm
Russell Tomlin, University of Oregon, "Cognitive Processes and Functional Grammar: Focal Attention, Voice, and Word Order in Discourse Production." 2-3 Mechanical Engineering Building.

7 March, 5 pm
Geoffrey Huck, University of Chicago Press, "On the Status of Certain Island Violations in Korean." 2-3 Mechanical Engineering Building.

ZOOLOGY

27 February, 3:30 pm
John Smol, Queen's University, "Assessing Aquatic Ecosystem Health Using Paleolimnological Techniques." M-149 Biological Sciences Building.

1 March, 3:30 pm
Ron Podesta, Department of Zoology, University of Western Ontario, "Human Blood Flukes (Schistosomiasis): A Case for Fundamental Enquiry Prior to Vaccines." M-149 Biological Sciences Centre.

ROMANCE LANGUAGES

1 March, 4 pm
Enzo De Nardo, professor of Italian, University of California at Davis, "Machiavelli's Lesson and the Moralization of Politics." Senate Chamber, Arts Building.

FAMILY STUDIES

4 March, 10:30 am
Z'Anne Harvey-Jensen, research officer, Alberta Alcohol and Drug Abuse Commission, "Research at AADAC: The Experience of a Family Studies Graduate." 3-57 Assiniboia Hall.

GERMANIC LANGUAGES

4 March, 3:30 pm
Fritz König, Department of Modern Languages, University of Northern Iowa, "Die Wiedervereinigung und ihre Implikationen für die deutsche Literatur" (in German). Senate Chamber, Arts Building.

4 March, 7:30 pm
Fritz König, "Scandinavian Nobel Prize Winners" (in English). 141 Arts Building.

AGRICULTURAL ENGINEERING

5 March, 1:30 pm
James Bolton, "Advanced Bio-Fibre Composites." Alberta Research Council Auditorium, 250 Karl Clark Road, Edmonton. (450-5393 for information).

SOCIOLOGY

6 March, 9 am to 3 pm
1991 Warren Kalbach Population Conference, "Population and Health Issues." TBW-2 Tory Building.

COMPARATIVE LITERATURE

7 March, 3:30 pm
Sandro Cordeshi, "The Ludicrous as a Literary 'Genre' and its Social Implications." Senate Chamber, Arts Building.

INTERDISCIPLINARY MATERIAL CULTURE LECTURE SERIES

7 March, 7:30 pm
Catherine Bell, "Protection of Aboriginal Material Culture: Heritage, Conservation and Legislation." 2-11 Humanities Centre.

FACULTÉ SAINT-JEAN

7 March, 7:30 pm
Jean A Laponce, Department of Political Science, University of British Columbia, "Pour survivre, une langue doit-elle avoir son propre territoire?" 150 Faculté Saint-Jean.

EXHIBITIONS

BRUCE PEEL SPECIAL COLLECTIONS

Until 1 March

"The Art of the Bookplate in Ukraine, 1960-1991." Information: 492-5998. Foyer, Rutherford South.

MCMULLEN GALLERY

Until 29 March

"Facets of Italy." Gallery hours: Monday to Friday, 10 am to 4 pm; Saturday and Sunday, 1 to 4 pm. Information: 492-8428, 492-4211. Walter C Mackenzie Health Sciences Centre.

MUSIC

24 February, 3 pm

Second Edmonton Youth Orchestra. Program to include Mozart, Faure, and Bizet. Information: 436-7932. Admission: \$3/adults; \$2/student and seniors. Convocation Hall.

27 February, 3 pm

A demonstration of interactive software and a presentation on electroacoustic music in Canada by two performers from Montreal. Convocation Hall.

28 February, 8 pm

Faculty Recital—Richard Troeger, harpsichordist/clavichordist. Convocation Hall.

EDMONTON CHAMBER MUSIC SOCIETY

24 February, 3 pm

"Guarneri String Quartet." Tickets: 433-4532 or 492-5124. Myer Horowitz Theatre.

FILMS

GERMANIC LANGUAGES

26 February, 7:15 pm

"Der Flieger" (1986), in colour, German with English subtitles. 141 Arts Building.

The University of Alberta is committed to the principle of equity in employment. The University encourages applications from aboriginal persons, disabled persons, members of visible minorities and women.

SUPPORT STAFF

To obtain further information on the following positions, please contact Personnel Services and Staff Relations, 2-40 Assiniboia Hall, telephone 492-5201. Due to publication lead time and the fact that positions are filled on an ongoing basis, these vacancies cannot be guaranteed beyond 15 February 1991. For a more up-to-date listing, please consult the weekly Employment Opportunities Bulletin and/or the postings in PSSR.

Positions available as of 15 February 1991.

The limited number of vacancies is a result of the current Support Staff hiring freeze.

The salary rates for the following positions reflect adjustments in accordance with the terms for the implementation of the Pay Equity Program.

BIOCHEMISTRY TECHNOLOGIST (Grade 7) (Part-time), Psychiatry, (\$1,063 - \$1,332 prorated)

SENIOR ACCOUNTS CLERK (Grade 6), Provincial Laboratory, (\$1,952 - \$2,433)

The following positions retain salary rates in accordance with the old classification system and pay plan.

CLERK TYPIST III (Part-time/Trust/Term to 30 April 1991), Disabled Student Services, (\$753 - \$945 prorated)

SECRETARY (Trust), Biochemistry, (\$1,677 - \$2,143)

ADMINISTRATIVE CLERK (PROGRAMMER ANALYST TRAINEE) (Term to 31 March 1991), Materials Management, (\$1,677 - \$2,143)

SECRETARY (Trust/Term to 31 August 1991), Foods and Nutrition, (\$1,677 - \$2,143)

MEDICAL STENO (Trust), Medicine, (\$1,677 - \$2,143)

BIOCHEMISTRY TECHNOLOGIST I (Trust), Pharmacology, (\$2,143 - \$2,765)

TECHNOLOGIST I/II (Trust), Genetics, (\$2,143 - \$3,018)

PROGRAMMER ANALYST II (Trust), Biochemistry, (\$2,537 - \$3,297)

TECHNOLOGIST IV (Trust), Medical Microbiology and Infectious Diseases, (\$2,889 - \$3,767)

MCMASTER PROFESSOR and family (two children under five) needing home, close to University, 10 May - 15 August. Call (416) 627-9772.

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MISCELLANEOUS

WANTED: Someone interested in car pooling to University from Woodbend Road area. Call Ada at 492-5221 or 987-3027.

Not enough known about ecology of forest fragments

Forests around the world are being fragmented as economic and population pressures cut into them in various ways. "Unfortunately, we know very little about the ecology of forest fragments, either tropical or temperate," says Richard O Bierregaard, director of a project to study the effects of fragmentation in the Amazon rain forest.

The project is a joint effort of Brazil's National Institute for Amazonian Research and the Smithsonian Institution, where Dr Bierregaard is on staff. He described the project in a seminar at the University of Alberta 8 February.

The work began in 1979, when cattle ranches were being developed in the forest north of Manaus. Ranchers agreed to leave one-, ten-, and one-hundred-hectare patches of undisturbed forest within the areas they cleared for pasture. That enabled the scientists to track, from the beginning, the effects of isolation on the local flora and fauna.

Monitoring those effects has been a challenging task, given the area's rich species diversity. For example, there may be 300 widely-dispersed species of trees in a space that would contain 10 or 15 species in a temperate forest, and leaf design is so consistent across rain-forest species that laboratory analysis is necessary to distinguish among the trees.

The team originally hoped to determine the minimum critical size of forest ecosystems, but no longer expects to do so. There have been no

reserves large enough to approach the critical number, and projections cannot go far enough beyond the data collected.

Tropical rain forests still are being felled at the rate of 50 to 100 hectares per minute, depending on the area. Yet Dr Bierregaard sees encouraging signs. Brazil has protected the environment in its constitution—the only country in the world to have done so—and a radically outspoken environmentalist now heads Brazil's ministry of the interior.

"There are a lot of indications that environmental consciousness is really maturing in Brazil," Bierregaard says. "While deforestation has a lot of momentum, they can perhaps stop soon enough so that there will be significant tracts of forest left in a hundred years."

ADS

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RENT - Furnished house in Petrolia, four bedrooms, 3 1/2 baths. Available June 1991 - May 1992. \$1,000 plus utilities. References required. Phone 437-7924 (leave message).

SALE - 10930 87 Avenue, revenue property, \$14,400/year income. Six bedrooms, two fridges, two kitchens, two bathrooms, two hot water heaters (33 gallons each in parallel). Asking \$133,900. To view, 433-8302.

TO LET IN LONDON, ENGLAND - Three bedroom, etc, furnished house. Parking, garden. Six months or longer from June 1991. Enquiries 469-2033.

SALE - Claridge House, opposite University, with magnificent city view. Two bedrooms, air conditioned, pool, underground parking. \$159,000. 1-342-0050.

SALE/RENT - Malmo bungalow. Five bedrooms, finished basement, double garage. Five minutes to

University, near schools, shopping. \$132,000. 436-3523 evenings, 492-2423 (work).

SALE - New condominium near University. At preselling stage, won't last long. Only \$2,000 deposit. For information contact Max, 448-6000, NRS Willes Real Estate.

SALE - Country living, three acres, three minutes south of Grey Nuns, school near, 1,900' plus 1,150' finished basement. Excellent condition. Five bedrooms, 3 1/2 baths, two fireplaces, attached garage. \$230,000. 988-5127.

SABBATICAL RENT/EXCHANGE - Central, four bedroom, historic house, overlooking river valley. \$1,200/month. Wanted in Ottawa - two/three bedroom house. Six plus months, September 1991. Nan (403) 429-2226 (evenings), 495-4880 (days).

SALE - Glenora, ten minutes to University, elegant, extensively renovated bungalow. Two bedrooms up, one down. Sunken living room, ceramic/marble tiling, family room, hardwood floors, french doors. \$219,900. 451-9444.

SALE - Near University, 10944 89 Avenue. Modern upgrading, basement suite, treed, seven rooms, three baths. Speaks for itself, priced at \$179,900. 439-7382.

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UNIVERSITY PROFESSOR AND FAMILY require house to rent, Windsor Park area. Present rental expires June 1991. Own four bedroom house in Victoria, exchange considered. Dr Penn, 431-1251 (home), 492-6707 (work).

BIOMEDICAL BIOTECHNOLOGY BOOK FAIR

February 25 - March 22

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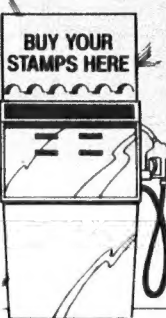
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